

CLAIMS

What is claimed is:

1. A low-profile dual-band antenna, comprising:
a ground plane;
an "E"-shaped metal plate that is located a first distance from
said ground plane and that includes first and second outer extensions
5 and an inner extension of said metal plate;
a feed tab that connects said inner extension and said
ground plane; and
a shorting tab that connects said inner extension and said
ground plane;
10 wherein said low-profile dual-band antenna communicates
first radio frequency (RF) signals in a first RF band and second RF
signals in a second RF band.
2. The low-profile dual-band antenna of Claim 1 wherein
said first RF signals and said second RF signals are vertical polarized
signals.
3. The low-profile dual-band antenna of Claim 1 wherein
said low-profile dual-band antenna produces a radiation pattern that is
omnidirectional in the azimuth plane and vertically polarized in a

horizontal plane when communicating said first RF signals and said
5 second RF signals.

4. The low-profile dual-band antenna of Claim 1 wherein said first RF band and said second RF band can be independently tuned.

5. The low-profile dual-band antenna of Claim 4 wherein said first RF band is an Advanced Mobile Phone System (AMPS) band.

6. The low-profile dual-band antenna of Claim 4 wherein said second RF band is a Personal Communications Services (PCS) band.

7. The low-profile dual-band antenna of Claim 4 wherein a length of said first and second outer extensions determines a first resonant frequency of said low-profile dual-band antenna.

8. The low-profile dual-band antenna of Claim 4 wherein a length of said inner extension determines a second resonant frequency of said low-profile dual-band antenna.

9. The low-profile dual-band antenna of Claim 1 wherein said low-profile dual-band antenna is fed by a cable with a first conductor and a second conductor, said first conductor connects to

said inner extension, and said second conductor connects to said
5 ground plane.

10. The low-profile dual-band antenna of Claim 9 wherein
said cable excites said metal plate with respect to said ground plane to
transmit vertical polarized signals.

11. The low-profile dual-band antenna of Claim 1 wherein
said low-profile dual-band antenna operates in a mobile phone system.

12. A method for producing a low-profile dual-band antenna,
comprising:

forming first and second parallel slots in a metal plate,
wherein said first and second parallel slots are symmetrically disposed
5 about a center point of said metal plate and produce first and second
outer extensions and an inner extension of said metal plate;

providing a ground plane;

connecting a first end of a feed tab to said inner extension
and a second end of said feed tab to said ground plane;

10 connecting a first end of a shorting tab to said inner
extension and a second end of said shorting tab to said ground plane;

wherein said low-profile dual-band antenna communicates
first radio frequency (RF) signals in a first RF band and second RF
signals in a second RF band.

13. The method of Claim 12 wherein said first RF signals and said second RF signals are vertical polarized signals.

14. The method of Claim 12 wherein said low-profile dual-band antenna produces a radiation pattern that is omnidirectional in the azimuth plane and vertically polarized in a horizontal plane when communicating said first RF signals and said second RF signals.

15. The method of Claim 12 further comprising:
independently tuning said first RF band and said second RF band.

16. The method of Claim 15 wherein said first RF band is an advanced mobile phone system (AMPS) band.

17. The method of Claim 15 wherein said second RF band is a personal communications services (PCS) band.

18. The method of Claim 16 further comprising:
adjusting a length of said first and second outer extensions to tune a first resonant frequency of said low-profile dual-band antenna.

19. The method of Claim 17 further comprising:
adjusting a length of said inner extension to tune a
second resonant frequency of said low-profile dual-band antenna.
20. The method of Claim 12 further comprising:
connecting a first conductor of a feed cable to said inner
extension; and
connecting a second conductor of said feed cable to said
5 ground plane.
21. The method of Claim 20 further comprising:
exciting said metal plate with respect to said ground
plane using said feed cable to communicate vertical polarized signals.
22. The method of Claim 12 wherein said low-profile dual-
band antenna operates in a mobile phone system.